



School roof refurbishment sees £98,000 labour cost saving and 30 tonnes of waste to landfill avoided.

Officially opened in 1993, Thorpe Primary School is now a member of the Peterborough Keys Academies Trust, educating hundreds of children aged 3 to 11 years old in the local area.

The existing roofs showed signs of failure, suffering from a range of water ingress, sunken insulation, membrane blistering and ponding water issues. The Trust had been advised by a third party that every roof at the site was completely saturated and required a full strip to the deck and replacement.

Wanting a second opinion, the Trust instructed RLB as a client advisor to provide a feasibility status and investigate this further before a decision on the roof specification could be made.

Quick Facts

Project
Thorpe Primary School

Location
Peterborough

Garland System
StressPly Flex Plus

Sector
Education

Garland Technical Manager
Tom Ferry

Approved Contractor
NRA Roofing



Challenge

Working with RLB, Garland UK Technical Manager Tom Ferry conducted detailed condition surveys on 13 roofs across the site, collating as a series of U-Value calculations and core samples to assess the locality of the water ingress issues. Further investigation with the Tramex moisture meter revealed some minimal areas of wet build-up, mostly in the gutters, which would need to be stripped to the deck.

Ferry recommended that the school arrange for a nuclear moisture map survey to be undertaken to back up our findings in an independent report. Rob Simpson of RWS Roof Testing conducted an impartial assessment of the existing waterproofing systems and produced a report that demonstrated less than 5% of the total roof area was wet.

The detailed results from the roof investigations ensured Ferry could effectively advise the Trust with accurate data and design the optimum roofing solution for the roofs at Thorpe Primary School. The Trust recognised an opportunity to rescue this roof before it got any worse and decided to re-roof the entire school in one go instead of phasing it over 3+ years.

Solution

The existing roof build-up consisted of approx 35mm PUR insulation, which was insufficient to meet the thermal efficiency needs of the school and building regulations. A warm roof design utilising the BBA-certified StressPly Flex Plus system was specified for its superior tensile strength, allowing thermal movement without the risks of breaks in the membrane.

Approved Contractor NRA Roofing began the 3000 sqm roof refurbishment by isolating the wet roof areas and stripping this back before reinstating the roof to existing levels. The roofs were overlaid with new cut to falls insulation to provide a significant thermal upgrade to the school and eradicate the existing standing water issues.

The design also included tapered gutters to ensure there were clear drainage channels, which would further reduce the risk of ponding water in the future.

The works were carried out during the school's term time, which meant an open channel of communication was established and maintained from the outset between Ferry, the Trust, NRA Roofing and RLB, with distinct phases of work and regular meetings in place to ensure disruption was minimised at every stage.





Outcome

The preliminary in-depth investigations conducted by Ferry and the proposed overlay, compared to the third-party advice to strip the roof to the existing deck, saved the school £98,000 in labour, materials and skip costs and avoided over 30 tonnes of waste material going to landfill.

The thermal efficiency upgrades ensured that the school achieved a 0.18 W/m²K U-Value, and on project completion, Ferry supplied the Trust with Garland's industry-leading 25 year Single-Point Guarantee for the StressPly Flex Plus system, which accepts the full liability for the design, system and installation quality of the project.

With the school's roof project completed, Garland's Solarise PV system is being considered to reduce the rising energy costs for the building sustainably.



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